

BEST AVAILABLE COPY**III. REMARKS**

Claims 1-6, 10-14 and 31-36 are pending in this application. By this Amendment, claims 1 and 12 have been amended, claims 7-9 and 15-30 have been cancelled, and claims 31-36 have been added. The above amendments and the following remarks are being made to facilitate early allowance of the presently claimed subject matter. Applicants do not acquiesce in the correctness of the rejections and reserve the right to present specific arguments regarding any rejected claims not specifically addressed. Further, Applicants reserve the right to pursue the full scope of the subject matter of the original claims in a subsequent patent application that claims priority to the instant application. Reconsideration in view of the above amendments and following remarks is respectfully requested.

In the Office Action, claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in an independent form. Applicants appreciate this indication of allowance. However, Applicants submit that revisions using the subject matter of claim 13 should not be necessary.

In the Office Action, claims 1-4, 7-9, 11-12 and 14 are rejected under 35 U.S.C. §102(b) as being anticipated by Sato (USPN 5,798,561); claims 1, 3-4, 7-9 and 11 are rejected under 35 U.S.C. §102(b) as being anticipated by Oda et al. (USPN 5,962,880); claims 1-2, 6 and 10 are rejected under 35 U.S.C. §102(e) as being anticipated by Darwish et al. (USPN 6,603,188); and claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over Sato. Applicants submit that the claimed subject matter is allowable and thus respectfully request withdrawal of the rejections for the reasons stated below.

Applicants first note that in the rejections of claims 1 and 7-9, the Office interprets Oda et al. inconsistently. In rejecting claim 1, the Office first identifies layer 12 (of Oda et al.) as an

outer region, then in rejecting claim 7-9, the Office further identifies layer 12 as a layer separating outer region 10 and inner region 11. Office Action at page 3. Applicants submit that the two interpretations of layer 12 are inconsistent because if layer 12 were a separating layer, layer 10 could not be an outer region because then layer 10 would be totally separated from layer 11 and there would be no conductivity therebetween. If layer 12 is an outer region, the contact locations of outer region and inner region (12 and 11) to the intrinsic base (9) are not separated. Applicants respectfully requests the Office choose a specific interpretation and/ or provide further clarification regarding layer 12 of Oda et al.

With respect to independent claim 1, none of Sato, Oda et al. and Darwish et al. disclose each and every claimed features. Specifically, in Sato, as shown in Fig. 5, intrinsic base 37 is positioned on the same level as a portion of the alleged raised extrinsic base (layer 36 being alleged by the Office as the outer region of a raised extrinsic base, Office Action at page 3), the bottoms of the alleged raised extrinsic base (layer 36) and intrinsic base 37 being on the same level. In addition, as shown by Fig. 5 of Sato, the bottom of a portion of the alleged raised extrinsic base (layer 34 being alleged by the Office as the outer region of a raised extrinsic base, Office Action at page 3) is below the top of intrinsic base 37, i.e., intrinsic base 37 is not below the alleged outer region of the extrinsic base. In view of the foregoing, Sato does not disclose, *inter alia*, "an intrinsic base positioned below the raised extrinsic base," as the current invention recites in claim 1. (Emphasis added).

In addition, in Oda et al., either extrinsic base layer 10 or polysilicon layer 12 (both ever alleged by the Office as an outer region) contacts intrinsic base 9. See Fig. 1. That is, no matter whether the Office identifies layer 10, or layer 12, or their combination as an outer region, in Oda et al., the outer region contacts intrinsic base 9. See Fig. 1. In view of the foregoing, Oda et

al. do not disclose, *inter alia*, "the intrinsic base being separated from the outer region by a dielectric layer positioned above the intrinsic base[.]" as the current invention recites in claim 1. (Emphasis added).

Moreover, in Darwish et al., as shown by Fig. 2, isolation layer 218 is positioned in the same layer as base 216. In Darwish et al., extrinsic base 224 is positioned just above base 216 and isolation layer 218. Darwish et al. do not disclose, *inter alia*, "the intrinsic base being separated from the outer region by a dielectric layer positioned above the intrinsic base[.]" as the current invention recites in claim 1. (Emphasis added).

In view of the foregoing, claim 1 of the current invention is not anticipated by the prior art references. Applicants respectfully requests withdrawal of the rejections.

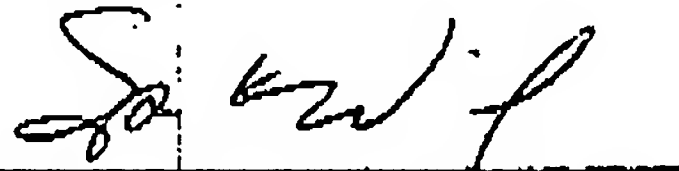
With respect to independent claim 12, the arguments regarding claim 1 also apply. In addition, in Sato, as shown by Fig. 5, the contact locations of the alleged outer region (layer 34 and layer 36) and the alleged inner region (layer 38) to intrinsic base 37 are not separated. In the Office Action, the Office asserts that "Sato teaches that both the inner region 38 and the outer region 36 contact the intrinsic base at separate locations (fig. 9 shows both 38 and 36 contacting 37)[.]" Office Action at page 3. Applicants submit that the phrase "separate locations" has a different meaning than "a second location laterally inward and separated from the first location by a separation portion" (claim 12 of the current invention). In the current invention, the first and the second (contact) locations are separated by a separation portion. *See* for example, layer 186 of Fig. 4F of the current invention. In particular, Sato does not disclose a layer separating the contact locations of outer region (layer 36) and inner region (layer 38) to intrinsic base 37. In view of the foregoing, Sato does not anticipate claim 12, and Applicants respectfully request withdrawal of the rejection.

New independent claim 31 incorporates the features of the original claims 1 and 7-8, which are believed allowable. For example, new claim 31 includes, *inter alia*, "the outer region also contacts an intrinsic base outer region that is positioned over a shallow trench isolation and below the outer region." In Oda et al., layer 5 (identified by the Office as an intrinsic base outer region) is not positioned below the outer region. Accordingly, Applicants submit that claim 31 and its dependent claims 32-36 are in condition for allowance.

The dependent claims are believed allowable for the same reasons stated above, as well as for their own additional features.

Applicants respectfully submit that the application is in condition for allowance. Should the Examiner believe that anything further is necessary to place the application in better condition for allowance, he is requested to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,



Spencer K. Warnick
Reg. No. 40,398

Date:

3/21/05

Hoffman, Warnick & D'Alessandro LLC
Three E-Comm Square
Albany, New York 12207
(518) 449-0044
(518) 449-0047 (fax)

10/604,212

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